

What is claimed is:

- 1 1. A method of file access control comprising:
 - 2 a. storing an encrypted filename of a file at a location in a
 - 3 computing system;
 - 4 b. converting the encrypted filename into a plaintext filename;
 - 5 c. modifying the plaintext filename into a modified filename; and
 - 6 d. authorizing an entity to access the file for performing a type of
 - 7 operation on the file based on the modified filename.
- 1 2. The method according to claim 1, wherein said converting comprises
- 2 using a combination of two encryption keys to convert the encrypted
- 3 filename into the plaintext filename.
- 1 3. The method according to claim 2, wherein said modifying comprises
- 2 using a first one of the two encryption keys to encrypt the plaintext
- 3 filename into the modified filename.
- 1 4. The method according to claim 3, wherein said authorizing
- 2 comprises using the second one of the two encryption keys to
- 3 encrypt the modified filename to form a result and determining
- 4 whether the result matches the encrypted filename.
- 1 5. The method according to claim 2, wherein said modifying comprises
- 2 using a first one of the two encryption keys to encrypt the plaintext
- 3 filename and performing a hash function on the filename thereby
- 4 forming the modified filename.
- 1 6. The method according to claim 5, wherein said authorizing
- 2 comprises comparing the modified filename to a stored hash value.

1 7. The method according to claim 1, wherein said encrypted filename is
2 encrypted using a first key prior to said storing and further
3 comprising storing a second encrypted filename of the file at the
4 location wherein the second encrypted filename is encrypted using a
5 second key prior to said storing.

1 8. The method according to claim 7, wherein said converting comprises
2 using the first key to convert the encrypted filename into the
3 plaintext filename.

1 9. The method according to claim 8, wherein said modifying comprises
2 using the second key to encrypt the plaintext filename into the
3 modified filename.

1 10. The method according to claim 9, wherein said authorizing
2 comprises comparing the modified filename to the second encrypted
3 filename.

1 11. The method according to claim 10, wherein said modifying further
2 comprises performing a hash function on the filename after using the
3 second key to encrypt the plaintext filename.

1 12. The method according to claim 1, wherein the plaintext filename
2 permits read access to the file and wherein said type of operation is a
3 write operation.

1 13. The method according to claim 1, wherein said storing comprises
2 substituting said encrypted filename into a directory structure at the
3 location in place of the plaintext filename.

1 14. The method according to claim 1, further comprising encrypting data
2 of the file.

1 15. An apparatus for controlling access to a file, comprising:
2 a. a server for the storing an encrypted filename associated with
3 a file; and
4 b. a client in communication with the server for retrieving the
5 encrypted filename from the server, for converting the
6 encrypted filename into a plaintext filename and for
7 modifying the plaintext filename into a modified filename,
8 wherein the client provides the modified filename to the server and
9 wherein the server determines whether the client is authorized to
10 perform a type of operation on the file based on the modified
11 filename received from the client.

1 16. The apparatus according to claim 15, wherein the plaintext filename
2 permits read access to the file and wherein the type of operation to
3 the file is a write operation.

1 17. The apparatus according to claim 15, wherein said client converts the
2 encrypted filename into the plaintext filename using a combination
3 of two encryption keys.

1 18. The apparatus according to claim 17, wherein said client forms the
2 modified filename using a first one of the two encryption keys to
3 encrypt the plaintext filename.

1 19. The apparatus according to claim 18, wherein said server determines
2 whether the client is authorized to perform the type of operation on
3 the file by using the second one of the two encryption keys to
4 encrypt the modified filename to form a result and determines

5 whether the result matches the encrypted filename provided by the
6 client.

1 20. The apparatus according to claim 17, wherein said client forms the
2 modified filename using a first one of the two encryption keys to
3 encrypt the plaintext filename.

1 21. The apparatus according to claim 20, wherein said server performs a
2 hash function on the filename to form a result and determines
3 whether the client is authorized to perform the type of operation on
4 the file by comparing the result to a stored hash value.

1 22. The apparatus according to claim 17, wherein said client forms the
2 modified filename using a first one of the two encryption keys to
3 encrypt the plaintext filename and performs a hash function on the
4 filename to form a result and wherein the server determines whether
5 the client is authorized to perform the type of operation on the file by
6 comparing the result to a stored hash value.

1 23. The apparatus according to claim 15, wherein the encrypted filename
2 is encrypted using a first key and wherein the server stores a second
3 encrypted filename wherein the second encrypted filename is
4 encrypted using a second key.

1 24. The apparatus according to claim 23, wherein the client converts the
2 encrypted filename into the plaintext filename using the first key and
3 modifies the plaintext filename into the modified filename using the
4 second key.

1 25. The apparatus according to claim 24, wherein the server determines
2 whether the client is authorized to perform a type of operation on the

3 file by comparing the modified filename to the second encrypted
4 filename.

1 26. The apparatus according to claim 25, wherein the server performs a
2 hash function on the filename after the client uses the second key to
3 modify the filename.

1 27. The apparatus according to claim 25, wherein the client performs a
2 hash function on the filename after using the second key to modify
3 the filename.

1 28. An apparatus for controlling access to a file comprising a server
2 having a stored encrypted filename of a file, the server being in
3 communication with a writer and a reader, the writer being a client of
4 the server and having a first key that permits the writer to write to the
5 file and the reader being another client of the server and having a
6 combination of the first key and a second key wherein the
7 combination permits the reader to read the file.

1 29. The apparatus according to claim 28, wherein the stored encrypted
2 filename is obtained by encrypting a filename of the file using the
3 combination of the first key and the second key.

1 30. The apparatus according to claim 29, wherein the server determines
2 that the writer is authorized to write to the file by receiving from the
3 writer the filename encrypted using the first key, encrypting the
4 received filename again using the second key thereby forming a
5 twice encrypted filename and comparing the twice encrypted
6 filename to the stored encrypted filename.

1 31. The apparatus according to claim 29, wherein the server determines
2 that the writer is authorized to write to the file by receiving from the
3 writer the filename encrypted using the first key, applying a hash
4 function to the received filename thereby forming a computed hash
5 value and comparing the computed hash value to a stored hash value.

1 32. An apparatus for controlling access to a file comprising a server
2 having a first stored encrypted filename of the file and a second
3 stored encrypted filename of the file, the server being in
4 communication with a writer and a reader, the writer being a client of
5 the server and having a first key that permits the writer to write to the
6 file and the reader being another client of the server and having a
7 second key that permits the reader to read the file.

1 33. The apparatus according to claim 32, wherein the reader decrypts the
2 first stored encrypted filename using the first key.

1 34. The apparatus according to claim 33, wherein the server determines
2 that the writer is authorized to write to the file by receiving from the
3 writer the filename encrypted using the second key and comparing
4 the received filename to the second stored encrypted filename.

1 35. The apparatus according to claim 33, wherein the server performs a
2 hash function on the received filename before comparing the
3 received filename to the second stored encrypted filename.